



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/882,138	06/15/2001	Joseph P. Donahue	45223/TJD/O125	9249
7590	03/20/2006		EXAMINER	
Carmody & Torrance 50 Leavenworts Street P.O.Box 1110 Waterbury, CO 06721-1110			AMINI, JAVID A	
			ART UNIT	PAPER NUMBER
			2672	

DATE MAILED: 03/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/882,138	DONAHUE ET AL.	
	Examiner	Art Unit	
	Javid A. Amini	2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 10 January 2006.  
 2a) This action is FINAL.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) \_\_\_\_\_ is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1,3,4,6-8,12-18,22-24 and 28-44 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_.

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/10/2006 has been entered.

***Claim Objections***

Claims 1 and 42-43 objected to because of the following informalities: Regarding claim 1: On page 3, lines 1-2 of claim amendments the word “the” has been repeated it. Regarding new claims 42-43: On page 9, line 6 and 12, respectively, of claim amendments the word “first” has been repeated it. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 29 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 29 contains “the percentage of modulation per in-scan pixel”, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains. The ramp rate in fig. 3 does not illustrate the

percentage of modulation per in-scan pixel, also in fig. 2 does not show any ramp rate that defined as the percentage of modulation per in-scan pixel.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-4, 6-8, 12-18, 22-24, 28 and 30-44 rejected under 35 U.S.C. 103(a) as being unpatentable over Kumashiro et al US patent 5,721,624 (hereinafter refers as Kumashiro) and further in view of Kanno et al. US patent 6,263,118 B1 (hereinafter refers as Kanno).

1. Claim 1.

Kumashiro in fig. 3 illustrates two adjacent image segments as the claim limitation claims “A method for combining at least two adjacent image segments to form a larger composite image on a photosensitive surface comprising”, Kumashiro at col. 2, lines 9-21 teaches a scanner for reading out image data having each divisional region partially repeated with respect to each adjacent divisional region; a memory for storing each image data of each divisional region read out by the scanner in correspondence with the original image; and a controller for identifying an overlapping region where each divisional region overlaps and joining each divisional region according to the identified result to generate a composite image. Kumashiro in fig. 6 illustrates defining a buffer region as an area of an image (b’, the overlap data) to be printed on the photosensitive surface (Kumashiro at col. 2, lines 13-15 teaches a scanner for

reading out image data having each divisional region partially repeated with respect to each adjacent divisional region) comprising pixels from a first image segment and pixels from a second image segment, as Kumashiro in fig. 6 illustrates clearly the overlap data “b” i.e. considered as a first image segment in fig 6 labeled as “L original, i.e. the combination of the overlap data with the non-overlap data”, and it’s obvious that the overlap data “b” comprises pixel data from “L original and R original” segments. Therefore, In view of the claim language “comprising pixels from a first image segment and pixels from a second image segment” has been covered in fig. 6.

The next step of the claim claims that “increasing the width of the first image segment to be printed on the photosensitive surface by adding pixels from the second image segment, wherein the pixels added from the second image segment substantially correspond to the area defined by the buffer region”, Kumashiro in fig. 6 illustrates similar concept as the claimed, e.g., the non-overlap data in fig. 6 may be compared to first image segment as claimed and increasing the width of the first image segment or the non-overlap data by adding the overlap data “b”. That makes the L original data, which is increased by amount of “b”. As seen in fig. 6 the overlap data defined by the code memory i.e. similar to the buffer region.

Examiner’s suggestion: Applicant requires providing the significant of the buffer region in respect to the Kumashiro’s fig. 6 code memory.

Kumashiro is silenced about printing the output in fig. 3, however, in fig. 1 illustrates a printer unit labeled as 4. Kanno in figs. 22 and 23 illustrates that the synthesized image send to memory 98 in fig. 2 and it can be printed into printer section 6, “printing, with a printing device, the first image segment and the portion of the second image segment added to increase the

width of the first image segment onto the photosensitive surface, while modifying the intensity of the pixels printed in the buffer region by a first ramp value". Applicant uses the terms "printing ... onto the photosensitive surface" and the reference Kanno at col. 7, lines 25-46 teaches the printer section 6 has the photosensitive drum 44 serving as an image carrier disposed in the substantially central portion of the apparatus body 10. The outer surface of the photosensitive drum 44 is exposed by the laser beam supplied from the laser exposure section 40 so that a required latent image is formed. The primary reference Kumashiro at col. 2, lines 26-39 teaches that reads out image data of each of a plurality of divisional regions of an original image in reading out an original image of a size greater than the image readable size, comprises: a scanner for reading out image data having each divisional region specified by an operator partially repeated with respect to each adjacent divisional region; a memory for storing each image data for each divisional region read out by the scanner in correspondence with the original image; and a controller for obtaining a joining point where each divisional region is to be joined in a area specified by the operator, and joining each divisional region at the joining point for generating a composite image. It's obvious for an ordinary person skill in the art to know that a scanner contains a photosensitive surface. In respect to the previous teaching from both references, they print the image data onto the photosensitive surface as applicant claimed in the claim 1's language "printing ... onto the photosensitive surface". The following step of the claim would have similar argument as previous argument, as follows: "increasing the width of the second image segment to be printed on the photosensitive surface by adding pixels from the first image segment, wherein the pixels added from the first image segment substantially correspond to the area defined by the buffer region". The following step of the claim is obvious

because Kumashiro in fig. 3 illustrates L image and right image to be printed onto the photosensitive surface i.e. scanner, as follows: "After printing the first image segment printing, with the printing device, the second image segment and the portion of the first image segment added to increase the width of the second image segment, onto the photosensitive surface, while modifying the intensity of the pixels printed in the buffer region by a second ramp value", it's obvious for completing the whole image, one should be scanning first section of an image then the second section of the image. Examiner's suggestion: Applicant should provide more information to convince any significant about scanning or printing onto the photosensitive surface, starting first image segment then the second image segment. Kanno does not explicitly specify, the overlapping or the ramp value that corrects the edges. Kanno in fig. 3 illustrates the gamma correction section, i.e. equivalent of an adjustment to the light intensity (brightness) of a monitor or printer in order to match the output more closely to the original image. Kanno in figs. 35 and 36 illustrates that the plural original images are combined into one composite image, i.e. formed the larger composite image "whereby the first image segment and the second image segment substantially overlap in the buffer region to form the larger composite image on the photosensitive surface while reducing the visible seam between the first image segment and the second image segment".

The motivation for a person skill in the art to combine Kanno's invention into Kumashiro's invention is as follows: The Kumashiro uses a scanner for reading out image data having each divisional region specified by an operator partially repeated with respect to each adjacent divisional region; a memory for storing each image data for each divisional region read out by the scanner in correspondence with the original image; and a controller for obtaining a

joining point where each divisional region is to be joined in a area specified by the operator, and joining each divisional region at the joining point for generating a composite image, and Kanno does not explicitly specify an edge filter can filter the overlapping area, however, Kanno illustrates in fig. 1, the digital copying machine has a apparatus body 10. The apparatus body 10 includes a scanner section 4 serving as a reading means (an image input section) and a printer section 6 serving as an image forming means (an image recording section). Therefore the combination of the references may be covered the limitations of the current claimed invention.

2. Claim 3,

The step is obvious; because the ramp values should be face to face, Kumashiro illustrates in fig. 6 the bottom section of the page “b’ and c”.

3. Claim 4,

The step is obvious, because it does not provide a significant reason to substantially full scale, and an ordinary person skill in the art would know a pixel with intensity may be presented with “1” (full scale) and a pixel with no intensity may be considered as “0” (empty scale).

4. Claims 6-8.

The step is obvious, because, this is how a beam of electromagnetic radiation/light/laser capable of exposing the photosensitive surface by conversion between the intensity and the amplitude of a beam.

5. Claims 12, 24, and 33.

The step of these claims are obvious, other than that Applicant should explicitly specify what would be the phenomenon of modulation of an electromagnetic wave by an acoustic wave? Is that how Applicant calculated the noise?

6. Claim 13.

Kanno in fig. 2 illustrates main control section, scanner section and printer section.

7. Claims 14-18.

Kanno in fig. 1 illustrates the laser exposure section 40 has a semiconductor laser 41 serving as the light source, a polygonal mirror 36 serving as a scan member for successively deflecting laser beams emitted from the semiconductor laser 41, a polygon-mirror motor 37 serving as a scan motor for rotating the polygonal mirror 36 at a predetermined number of revolutions to be described later and an optical system 42 for deflecting the laser beam supplied from the polygonal mirror 36 to introduce the deflected laser beam into the surface of a photosensitive drum 44 to be described later. The laser exposure section 40 having the above-mentioned structure is secured and supported by a support frame (not shown) of the apparatus body 10.

8. Claim 22.

The rejection of claim 1 is similar to the rejection of claim 22.

9. Claim 28.

The rejection of claim 1 is similar to the rejection of claim 28.

10. Claim 30.

The step of the intensity value is computed from a ramp rate is obvious, because the ramp value is also computed from the beam intensity. The integrator then calculates an intensity value by integrating between the zero and positive values. Meaning the zero value is equal to no beam intensity, while Applicant discloses in the specification on page line 13, that the integrator then calculates an intensity value by integrating between positive or negative values. Examiner's note: It is not clear what Applicant means by the negative value?

11. Claim 31.

The step is obvious, because the frequency of the output signal is an exact multiple of the input frequency. Applicant does not specify what kind of multiplier used in a conversion scenario?

12. Claims 32 and 23.

The step is obvious, because amplitude modulation (AM) is the modulation method used in the AM radio broadcast band. In this system the intensity, or amplitude, of the carrier wave varies in accordance with the modulating signal. When the carrier is thus modulated, a fraction of the power is converted to sidebands extending above and below the carrier frequency by an amount equal to the highest modulating frequency.

13. Claim 34.

The step is obvious, because phase modulation (PM) is a form of modulation which represents information as variations in the instantaneous phase of a carrier wave.

14. Claim 35.

The step of claim invention is obvious, because In frequency modulation (FM), the frequency of the carrier wave is varied in such a way that the change in frequency at any instant is proportional to another signal that varies with time. Its principal application is also in radio, where it offers increased noise immunity and decreased distortion over the AM transmissions at the expense of greatly increased bandwidth. The FM band has become the choice of music listeners because of its low-noise, wide-bandwidth qualities; it is also used for the audio portion of a television broadcast.

15. Claim 36.

The step is obvious, because (Pulse Code Modulation), PCM is the primary way analog signals are converted into digital form by taking samples of the waveforms from 8 to 192 thousand times per second (8 to 192kHz) and recording each sample as a digital number from 8 to 24 bits long.

PCM data are raw digital audio samples

16. Claim 37.

See rejection of claim 1.

17. Claims 38-40,

Regarding claim 38, the step is obvious, because the width of the image segment must be equal or less than to a maximum width of the printing device. Re. claims 39-40, the step is obvious, because the printing device can be considered as a raster output scanner.

18. Claim 41.

The rejection of claim 1 is similar to the rejection of claim 41.

19. Claims 42-44.

Kumashiro at col. 5, lines 61-65 teaches the read out data is controlled by a third DMA control signal 3 (DMA C3) and transferred to an expander 13 via the code data bus. Also see fig. 3, 6 and the rejection of claim 1.

***Conclusion***

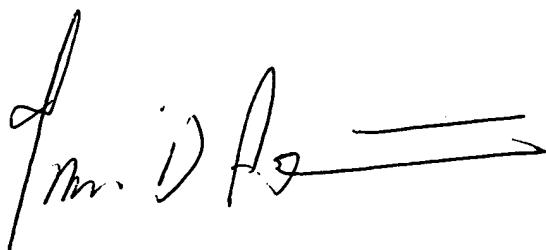
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Javid A. Amini whose telephone number is 571-272-7654. The examiner can normally be reached on 8-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on 571-272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Javid A Amini  
Examiner  
Art Unit 2672

Javid Amini

A handwritten signature in black ink, appearing to read "Javid Amini". The signature is fluid and cursive, with a long horizontal line extending to the right at the end.